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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,555	03/10/2004	Eun-Tae Won	678-1216(P11135)	4407

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EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT PAPER NUMBER

3661

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/797,555

Applicant(s)

WON ET AL.

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 March 2004.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-47 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-47 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 - Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 - Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 - * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :3/9/05, 4/24/06, 2/26/07 and 4/16/07.

DETAILED ACTION

1. This office action is in response to the application filed 10 March 2004, in which claims 1-47 were presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 9, 12, 14, 16-19, 25, 28, 30, 32, 35, 41 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Gorday et al., US 2004/0192331.

(Claim 1) Gorday et al. discloses a method for forming an ad-hoc network between vehicles to communicate vehicle management information between them ([0014]), comprising the steps of: collecting, by a source vehicle, its own vehicle driving information, and creating vehicle management information of the source vehicle based on the vehicle driving information ([0015]); setting up, by source vehicle, a routing condition composed of predetermined vehicle traveling requirements based on the vehicle management information ([0015]), and transmitting a vehicle management information message having the routing condition and the vehicle management information to nearby vehicles ([0015]-[0016]); searching, by the nearby vehicles, for the routing condition upon receiving the vehicle management information message ([0016]);

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and determining whether the nearby vehicles route the vehicle management information message according to the routing condition ([0015]-[0016]).

(Claim 14) Gorday et al. discloses an apparatus for forming an ad-hoc network between a source vehicle and nearby vehicles to communicate vehicle management information between them, the apparatus comprising: a sensor for collecting vehicle driving information including at least one of vehicle position, direction, and speed information of the source vehicle ([0015]); a communicator for receiving a vehicle management information message having vehicle management information and a routing condition of nearby vehicles from the nearby vehicles (wireless communication modules, [0015]), for inserting a predetermined vehicle traveling requirement into the routing condition ([0017]), for comparing the vehicle traveling requirement with the collected vehicle driving information ([0016]-[0017]), and for determining whether the vehicle management information message is routed ([0016]); and a display for informing a driver of the collected vehicle driving information ([0013]).

(Claim 19) Gorday et al. discloses an apparatus for forming an ad-hoc network between a source vehicle and nearby vehicles to communicate vehicle management information between them, the apparatus comprising: a sensor for collecting vehicle driving information including at least one of vehicle position, direction, and speed information of the source vehicle ([0015]); a communicator for receiving vehicle driving information of nearby vehicles (wireless communication modules [0015]); a controller for creating vehicle management information based on individual vehicle driving information of the source vehicle and the nearby vehicles ([0015]-[0016]), for setting up a

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predetermined routing condition for routing the vehicle management information ([0016]-[0017]), for inserting a predetermined vehicle traveling requirement into the routing condition ([0017]), and for creating a vehicle management information message having the routing condition and the vehicle management information (figure 5); and a display for informing a driver of the vehicle driving information of the source vehicle and the vehicle management information ([0013]).

(Claim 30) Gorday et al. discloses a method for forming an ad-hoc network between a source vehicle and nearby vehicles to communicate vehicle management information between them comprising the steps of: collecting vehicle driving information including at least one of vehicle position, direction, and speed information of the source vehicle ([0015]); receiving vehicle management information message having vehicle management information and a routing condition of nearby vehicles from the nearby vehicles (figure 4, [0015]-[0016]), inserting a predetermined vehicle traveling requirement into the routing condition ([0017]), comparing the vehicle traveling requirement with the collected vehicle driving information, and determining whether the vehicle management information message is routed ([0016]-[0017]); and informing a driver of the vehicle driving information of the source vehicle ([0013]).

(Claim 35) Gorday et al. discloses a method for forming an ad-hoc network between a source vehicle and nearby vehicles to communicate vehicle management information between them comprising the steps of: collecting vehicle driving information including at least one of vehicle position, direction, and speed information of the source vehicle ([0015]); receiving vehicle driving information of nearby vehicles from the nearby

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vehicles ([0016]); creating vehicle management information based on the vehicle driving information of the source vehicle and the nearby vehicles, setting up a routing condition for routing the vehicle management information ([0015]-[0016]), inserting a predetermined vehicle traveling requirement into the routing condition ([0017]), and creating a vehicle management information message having the routing condition and the vehicle management information ([0016]-[0017]); and informing a driver of the vehicle driving information and the vehicle management information of the source vehicle ([0013]).

(Claims 9, 25 and 41) Gorday et al. further discloses wherein the rerouting condition further includes ID and routing area information of a routing vehicle and the message reception condition further includes ID information of a destination vehicle ([0016]-[0017]).

(Claims 12, 28 and 44) Gorday et al further discloses wherein the source vehicle sets the destination vehicle ID to a specified vehicle, sets the routing vehicle ID to an ID of the specified vehicle based on the vehicle driving information of the specified vehicle, and transmits the vehicle management information message to the specified vehicle (figures 2 and 3, [0016]).

(Claims 16 and 32) Gorday et al. further discloses wherein the vehicle traveling requirement includes at least one of vehicle position, speed, and direction information ([0015]).

(Claim 17) Gorday et al. further discloses wherein the vehicle management information message includes a message reception condition composed of a plurality of predetermined vehicle traveling requirements ([0015]-[0016]).

(Claim 18) Gorday et al. further discloses a controller for receiving the vehicle management information message from the communicator if the communicator determines that the vehicle driving information is compatible with the vehicle traveling requirements defined in the message reception condition ([0014]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 3, 6-8, 15, 20, 23, 24, 31, 33, 34, 36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorday et al. in view of Impson et al., US 6,708,107.

(Claims 2, 15, 20, 31 and 36) Gorday et al. discloses the method and apparatus as previously described, but does not detail the form of the message transferred between vehicles. Impson et al. teaches an ad-hoc communication network between vehicles, wherein the message transmitted contains in a header a routing condition (figure 5, column 5, lines 30-61), and in the main body of the message vehicle management information of the source vehicle (column 5, lines 5-17). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the

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method and apparatus of Gorday et al. with the teachings of Impson et al. because as Impson suggests using a message format standard among vehicles enables efficient cooperative participation between vehicle systems, allowing the system to target the system needs and quickly discard non-relevant information (column 2, lines 14-43).

(Claims 3 and 33) Gorday et al. teaches wherein the step for searching the routing condition includes the step of: searching, by the nearby vehicles, for the routing condition upon receiving header information of the vehicle management information message ([0014]); and comparing, with the nearby vehicles, their vehicle driving information with the vehicle traveling requirements contained in the routing condition ([0014]-[0015]).

(Claims 6, 23, and 39) Gorday et al. describes wherein the source vehicle sets up a message reception condition to allow only vehicles satisfying a prescribed vehicle traveling requirements to receive the vehicle management information message ([0016]), includes the message reception condition in the routing condition, and then transmits the message ([0016]).

(Claims 7, 24 and 40) Gorday et al. further describes wherein the vehicle traveling requirement includes at least one of vehicle position, speed, and direction information ([0015]).

(Claims 8 and 34) Gorday et al. further describes wherein the vehicle management information message is transmitted to a driver if the nearby vehicles are compatible with the message reception condition ([0014]).

Claim Rejections - 35 USC § 103

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4. **Claims 4, 5, 10, 11, 13, 21, 22, 26, 27, 29, 37, 38, 42, 43, and 45-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorday et al. in view of Impson et al., and in further view of Kiendl et al., US 6,654,681.

Gorday et al. and Impson et al. describe methods and apparatus for forming an ad hoc network between vehicles to communicate vehicle management information and generally vehicle status information that may affect other vehicles, including speed, position, braking, turning, and possible traffic congestion, further creating a vehicle management information using at least one of the vehicle driving information and the vehicle safety information based on the source vehicle ([0015]). Neither reference specifically describes vehicle safety information based on the own vehicle and nearby vehicles. However, Kiendl et al. teaches a vehicle ad hoc network that teaches vehicles transmitting messages containing vehicle safety information based on the vehicle's own driving information and the vehicle driving information of the nearby vehicles (column 2, lines 15-30), and including at least one of position and direction of the source vehicle in the vehicle driving information (column 6, lines 45-63); and creating a vehicle management information using at least one of the vehicle driving information and the vehicle safety information of the source vehicle (column 6, lines 16-63). Kiendl et al. further teaches wherein the vehicle safety information includes: a first warning message indicating an imminent traffic collision between vehicles (column 6, lines 16-27); a second warning message indicating a traffic accident occurrence (column 13, lines 24-33), and a third warning message indicating the entrance of the source vehicle to a crossroads (column 11, line 60-column 12, line 10). Kiendl et al. further teaches wherein

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the vehicle driving information includes information indicating a traffic accident occurrence of the source vehicle (column 13, lines 24-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method and apparatus of Gorday in view of Impson, with the teachings of Kiendl because as Kiendl suggests, transmitting information regarding vehicle safety status increases the efficiency and relevancy of the information transmitted, allowing vehicles to receive and determine the most efficient route of travel and warn drivers of potential unsafe driving events (column 3, lines 39-59 and column 4, lines 23-39).

Kiendl et al. further teaches the source vehicle sets the routing vehicle ID and destination vehicle ID to a null value and broadcasts the vehicle management information message to the nearby vehicles (column 13, lines 1-22). Kiendl et al. further teaches the source vehicle sets the routing area to a predetermined area, sets vehicle position information contained in the vehicle traveling requirement of the message reception condition to a reference position of the routing area, and broadcasts the vehicle management information message to nearby vehicles contained in the predetermined area (Column 12, line 59-column 13, line 22). Kiendl et al. further teaches wherein the source vehicle sets up a plurality of routing vehicle IDs, and transmits the vehicle management information message to the specified vehicle using a flooding method (column 4, lines 50-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method and apparatus of Gorday in view of Impson with the teachings of Kiendl et al. because as Kiendl et al. suggests allowing the vehicle to direct the destination of the messages increases the

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efficiency and safety of the system by allowing only the vehicles within a certain range or area to receive event information, further increasing the efficiency of the transmissions of the group (column 11, lines 39-60).


Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB



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